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THE AMERICAN RED CROSS

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Typhus epidemic in eastern Macedonia.



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THE TYPHUS EPIDEMIC

IN

EASTERN MACEDONIA

BY MAJOR SAMUEL J. WALKER, M. D.,

DEPUTY COMMISSIONER

HEAD OF THE DEPARTMENT OF MEDICINE AND SANITATION

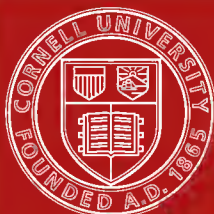
Athens

June 1, 1919

ATHENS

PRINTED BY P. D. SAKELLARIOS

1919



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Athens, June 1, 1919.

*From: Major Samuel J. Walker, Deputy Commissioner,
Head of the Department of Medicine and Sanitation.*

To: Lieutenant-Colonel Edward Capps, Commissioner.

*Subject: Typhus Fever in Oriental Macedonia and
The American Red Cross.*

INTRODUCTION

Burdened with all the misery that human flesh is heir to, the Greek refugees from Bulgaria began to pour into Oriental Macedonia shortly after the declaration of the armistice, and the stream continued through the fall and winter of 1918 and through January 1919, since which time they have continued to come, but in gradually diminishing numbers.

They came by thousands, cold, hungry, thirsty, filthy and vermin-infested from a country lousy with typhus fever; they suffered such frightful privations that many died by the wayside.

Human wretchedness in all its protean varieties affecting large groups of people blazes the way for the spread of disease. No wonder, therefore, that typhus fever appeared in sporadic form in Kavalla, Drama, Serres, Demir Hissar and a few other smaller centers through January, 1918, and continued to smoulder in these centers through January, 1919; the wonder is that the disease did not assume epidemic form much earlier than it did. All the

conditions necessary for the rapid spread of the disease were present; potentially there was an epidemic of typhus fever in Oriental Macedonia long before it appeared.

It is interesting to note here that on January 17, 1919, your Medical Director held a long conversation with a prominent Greek Army official directly concerned with Macedonian affairs. This conversation was solicited by your Director solely to discuss the typhus situation in Macedonia, which in his opinion showed distinct mutterings of impending trouble. He was reassured, however, by this official, who stated that all necessary measures were being taken by the Greek sanitary officers, and that in their opinion there was no danger of an epidemic. Later investigations revealed, however, that the «necessary measures» had not really been taken, and at the time referred to the sanitary authorities had been by no means alive to the situation.

The time to control an epidemic is in the pre-epidemic stage. This is especially true of typhus fever, because, given proper organization and equipment, typhus fever, even in epidemic form, can easily and surely be controlled, and naturally in the pre-epidemic stage more easily and more quickly stamped out.

On January 25 and 26, 1919, kindling was added to the smouldering typhus situation in Oriental Macedonia by the arrival at Kavalla of three Greek ships from Varna bearing 2150 Greek refugees, and among them twenty-one cases of typhus fever. The local authorities seem unfortunately not to have appreciated the conditions thus confronting them and missed the opportunity thrust upon them of stamping out the disease.

Not until February 25th did the Greek authorities awake to the seriousness of the situation, when they reorganized and greatly strengthened the force of inspectors, with the result that on that date and the four following

days 252 cases of typhus fever were officially uncovered among the refugees who had landed at Kavalla on January 25 and 26.

This alarming news was wired to the headquarters in Athens of the American Red Cross Commission to Greece by Major Horace S. Oakley, at that time our representative in Macedonia. The Commission immediately went into conference. The situation which confronted us was this: If the disease could immediately be brought under control, so that the lives of our workers, who to the number of about thirty-five were administering relief to the war-sufferers of that region, would not be increasingly and unnecessarily exposed, our workers would be allowed to remain at their posts; otherwise we should be obliged to withdraw our forces from Eastern Macedonia. We naturally proposed the former alternative, which, however, presupposed that the Greek authorities would welcome our participation in the anti-typhus fight and would accord our Medical Department such a degree of support and authority as would reasonably insure the safety of our workers and the success of the enterprise as a whole. Several conversations were then held with Mr. Athanasaki, Under-Secretary of State for War, in charge of Hygiene and Sanitation, in which we offered the Greek Government our fullest cooperation in medical personnel and supplies to help combat the typhus fever epidemic in Kavalla and Oriental Macedonia.

Mr Athanasaki accepted the offer in the spirit in which it was made and did everything in his power to prepare and smooth the way for the participation of the American Red Cross in the anti-typhus campaign. To meet the emergency an American Red Cross medical unit was organized consisting of Major Samuel J. Walker and four other physicians, namely, Captain Paul D. White and Lieutenants D. S. Clark, C. A. L. Binger, and J. S. Hodgson. With

them was associated Mr. B. H. Hill, Director of the American School in Athens, who volunteered to accompany the unit and to act as its interpreter and diplomat. The first contingent of this unit, consisting of Major Walker and Mr. Hill, was rushed to Kavalla by special boat, the Submarine Chaser No. 248 U. S. N., leaving Piraeus March 2nd and arriving at Kavalla March 4th.

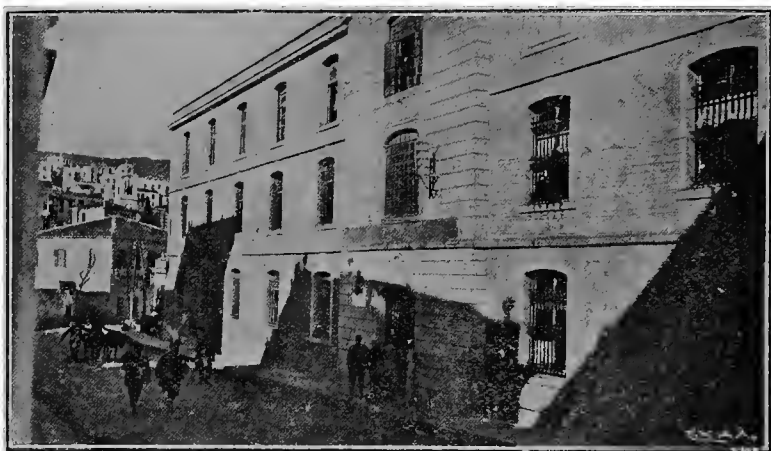


Fig. 1.—Mayer Typhus Hospital, Kavalla.

K A V A L L A

Preliminary Observations and Investigations.

Kavalla has a population of 18000 (correct figures from a recent census) and is easily the most important city of Oriental Macedonia. The principal industry is the sorting, curing and shipping of the finest grades of cigarette tobacco; the city is full of huge tobacco warehouses largely operated by American interests.

We arrived in Kavalla March 4th, beset by many rumors as to the actual number of typhus cases in the city. Mr. Athanasaki, on February 27th, had official telegraphic information that the total number of cases was eighty; another well-informed source stated the number to be six hundred; still another rumor placed the total number of cases as something over one thousand. As a matter of fact there were, on March 6th, two hundred and seventy-six cases of typhus fever in the Kavalla hospitals; of this number ten were soldiers, eight nurses, three doctors and twenty civilians, thus showing that the disease had assumed epidemic form outside the refugee ranks.

After several satisfactory conversations with General Negroponte, ranking army officer of the Kavalla district, and his chief medical officer Colonel Kourtakis, we began our preliminary observations and investigations.

Under the guidance of Colonel Kourtakis the following facts were uncovered:—

1. The refugees arriving at Kavalla January 25 and 26, 2150 in number (every one of whom had been directly or indirectly exposed to typhus fever), had been huddled together in eight large tobacco warehouses (hereinafter to be called «barracks») under lax quarantine regulations and lax medical inspections, as was plainly evidenced by the explosive outburst of 252 cases of typhus in five days, when the figures for the entire week previous to these momentous five days showed only eight cases. It is simply impossible for such discrepancies in figures to occur in any epidemic under efficient daily medical inspections. In other words, most of those 252 cases were present many days in the refugee barracks before they were properly diagnosed and isolated.

Under the circumstances it is difficult to understand how these poor refugees, after such thorough exposure to typhus fever, escaped as well as they did. The most rea-

sonable explanation seems to be that probably many of them had already had typhus fever and were therefore typhus-immune.

2. Some days after the arrival of these 2150 refugees at Kavalla the authorities began systematically to delouse them at the rate of about 200 per day; after being deloused they were placed in so-called «clean» barracks, where they were held in quarantine for 21 days; they



Fig. 2.—Refugees leaving Kavalla, after having been deloused and quarantined.

were then given clean-bill-of-health certificates by the civil sanitary authorities, and sent to Drama, Serres and Demir Hissar with orders to report to the sanitary authorities of these cities. All of this sounds like a perfectly good arrangement and would have been so had the Kavalla authorities done their work efficiently, but unfortunately they failed in two most vital particulars. It was the same old story: both the quarantine and the medical inspection of the refugees in the clean barracks were inefficient, the result being that many of these refugees

from Kavalla carried typhus fever, along with their clean-bill-of-health certificates, into Drama, Serres and Demir Hissar. In Serres it was no uncommon occurrence for the refugees, already victims of typhus fever, to present themselves to the sanitary authorities at the same time clutching Kavalla clean-bill-of-health certificates in their hands — a situation almost amusing if it were not so sad and tragic.

This indiscriminate sending forth of hundreds of refugees from Kavalla without previous proper medical inspec-



Fig. 3.—Typhus Ward in Mayer Hospital, Kavalla.

tion was decidedly, in the opinion of your Medical Director, the most criticisable single act of the Greek sanitary authorities in their management of the typhus situation in Oriental Macedonia. It undoubtedly had much to do with the putting of typhus fever on an epidemic basis in the centers outside of Kavalla.

3. The city of Kavalla had been divided into seven sanitary sections, the medical responsibility for these sections being about equally divided between the military authorities on the one hand and the civil authorities on the

other hand. A sanitary committee, consisting of one physician, one civilian and one police inspector, was appointed for each section and held responsible for the daily medical inspection of the inhabitants of that section, in order that no case of typhus fever or typhus suspect might remain undiagnosed or hidden.

The usual regulations for reporting and after-handling of all cases were used, proved typhus cases, typhus suspects, and those exposed to typhus being quarantined or isolated as their status demanded.

4. The typhus equipment in Kavalla was good and sufficient, consisting of —

a. The Mayer Hospital (until February 25, 1919, the main military hospital for the Kavalla district) for refugee and civilian typhus cases; accommodations for 400 patients.

b. The Military Hospital (until February 25, 1919, the Officers' Hospital for the Kavalla District) for officer and soldier typhus cases; accommodations for 40 patients.

c. The Kolakitha Hospital (just opened) for well-to-do civilian typhus cases; accommodations for 25 patients. All the above hospitals were equipped with separate delousing plants for the patients and their clothes.

d. One large house for quarantining families of typhus patients; practically impossible to operate efficiently; closed early in March.

e. One military delousing plant, an old Turkish bath, well arranged and capable of delousing about 300 persons and their clothing daily.

f. One civil delousing plant, an old Turkish bath, also well arranged and capable of delousing about 400 persons and their clothing each day. The Serbian barrel system was used in all the delousing plants in Kavalla for the disinfecting of clothing.

g. One so-called «clean» barracks for quartering the

deloused refugees, sufficient for the very indifferent housing of about 1200 refugees.

5. Colonel Kourtakis informed us that the medical control and inspection of the refugees in the barracks was vested in the civil authorities until February 25, on which



Fig. 4.—Military Typhus Hospital, Kavalla.

date the military sanitary authorities took over the medical control of the refugees; and that the military medical inspectors uncovered the 252 cases of typhus fever found in the barracks on February 25 and the four following days.

These preliminary observations and investigations brought to light two most important and outstanding facts;

first, that there had been in the Greek anti-typhus organization a division of authority and responsibility — a situation intolerable in the management of any epidemic and always inviting failure; second, that as a consequence of this fundamental weakness in their organization the sanitary authorities were almost flagrantly inefficient down to the time of the explosive outbreak in February, this inefficiency continuing, but to a very much lesser degree for some time thereafter.

Plans for the participation of the American Red Cross in the anti-typhus fight.

The American Red Cross medical unit plainly had important functions to perform; therefore on Sunday, March 9, armed with the facts as above outlined, we had a conference with General Negroponte and his chief medical officer, Colonel Kourtakis. At this conference it was arranged that henceforth all the authority and responsibility for the management of the epidemic should rest in one person, Colonel Kourtakis, which arrangement formed at least the nucleus, and the nucleus fundamentally necessary, of an efficient organization. Next, a plan for the participation of the American Red Cross in the Kavalla anti-typhus campaign was formulated. The plan adopted, briefly outlined, provided for the following program:

1. A daily conference between the Chief of the Greek anti-typhus organization and the American Red Cross medical officers.

2. Daily inspections and investigations of the typhus field in Kavalla by the American Red Cross medical officers, these inspections and investigations to have the fullest cooperation of the Greek sanitary officers.

3. The results of these inspections and investigations in

the form of suggestions and recommendations to be presented each day at the conference.

4. All suggestions and recommendations made by the American Red Cross medical unit to receive the utmost consideration from the Greek sanitary authorities, and to be carried out as soon as possible.

5. The program, as outlined, to go into effect immediately.

A conference was held on the same day and was attended by the entire American Red Cross medical unit,



Fig. 5.—Rich Man's Typhus Hospital, Kavalla.

the second contingent having arrived in Kavalla by this time; present at this conference were Major Walker, Mr. Hill, Captain White, Lieutenants Binger, Clark and Hodgson, also Major Roger Perkins of the Balkan Commission. At this conference the plan above outlined was presented and agreed upon as a good working basis for the participation of the American Red Cross in the anti-typhus campaign in Kavalla.

The above embodies the data obtained and the work accomplished by the first contingent of the American Red

Cross medical unit, and prepared the way for our active cooperation.

Active work.

Exactly according to program, we began our work the next day, March 10; it took the form of independent inspections of the delousing plants, and the methods used therein, by Lieutenants Binger and Hodgson, and observations of the medical inspections in the different city sections by Captain White and Lieutenant Clark.

After two days of such inspections and observations sufficient data were collected to justify the following conclusions:

The delousing plants: That the apparatus was adequate, and that the plants on the whole were working fairly well; that, however, numerous errors of technique prevailed—errors which materially vitiated the final results of the disinfecting process. Therefore we presented to Colonel Kourtakis definite recommendations, the adoption of which we believed would distinctly improve the disinfecting technique. Our recommendations were well received and we were immediately given the authority necessary to carry out our recommendations.

The medical inspections: That the Greek medical inspection of the city sections was well organized and was of much value so far as it went; it was not adequate because some of the sections were so large that two or even three days were required for the doctors to cover them. Now these daily inspections of all the houses in each section were extremely important, in our opinion, and necessary to bring about the best results in the anti-typhus campaign. We therefore recommended to Colonel Kourtakis that the number of sections, and necessarily also the number of medical inspectors, be increased from seven to twelve, and that Kavalla be redistricted accord-

ingly, the American Red Cross agreeing to take over four of the new sections. This recommendation was enthusiastically received and immediately orders were given to carry out the recommendations.

Colonel Kanavatsoglou, Surgeon-General of the Greek Army and the medical head of all typhus work in Macedonia, arrived in Kavalla March 11, bringing with him Lieutenant Moutoussis, chief epidemiologist of the Greek Army. Colonel Kanavatsoglou, an unusually able and ef-



Fig. 6.—Waiting to be Deloused, Kavalla.

ficient leader, made careful inspections of the whole typhus situation in the city and subsequently very materially strengthened the Kavalla typhus organization.

With the changes which had been made in the delousing plants working smoothly, with the increased number of city sections in operation, and with the stimulus given to the whole organization by the presence of Colonel Kanavatsoglou, the anti-typhus campaign in Kavalla was on in earnest.

The organization at this time was made up of twenty-

three physicians, including our own unit, all devoting their entire time to typhus work.

On March 17 Lieutenant Moutoussis, the epidemiologist, was placed in command by Colonel Kanavatsoglou of all typhus work in Kavalla, as Colonel Kourtakis was leaving for duty in Russia. Lieutenant Moutoussis proved to be an able and efficient commander, and still further systematized the organization.



Fig. 7.—Delousing Plant (Old Turkish Bath), Kavalla.

Daily evening conferences were held, attended by all the medical typhus workers. At each conference written and oral reports were submitted, which formed the basis for the Kavalla typhus fever statistics. These statistics showed for each day:

1. The number of new typhus cases found;
2. The number of typhus suspects found;
3. The number and location of quarantined houses;
4. The number of persons deloused;
5. The total number of typhus cases in hospital, classified as to whether civilian, refugee, soldier or officer;

6. The number of deaths.

In addition the conference served to bring out suggestions and led to an exchange of views, thus stimulating the work of every one.

Another factor which contributed materially to the situation was the great good-feeling always existing be-

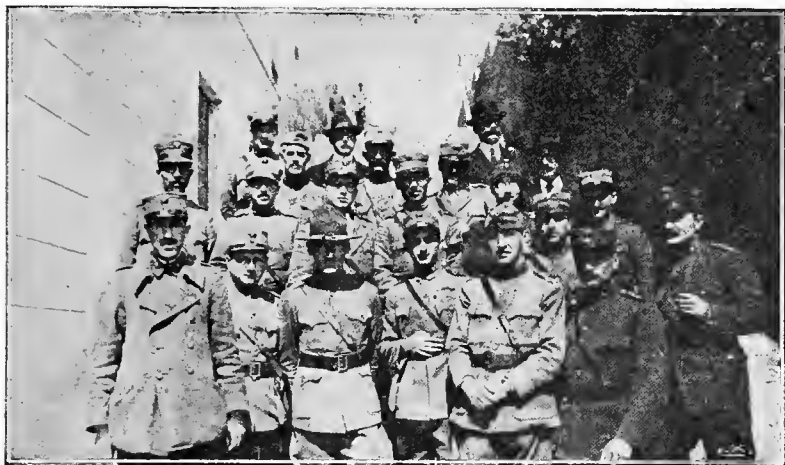


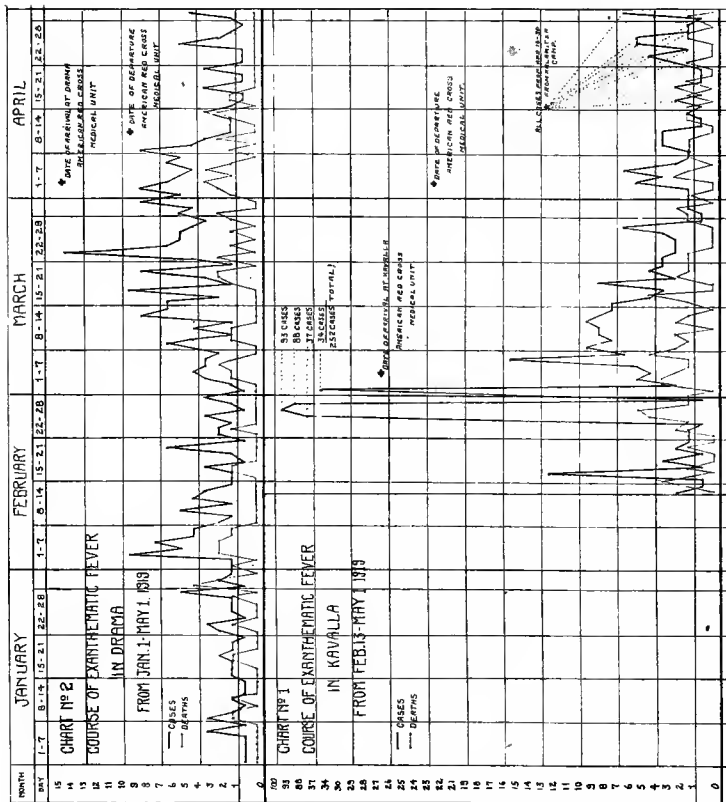
Fig. 8. — Group of Typhus Doctors, Kavalla.

tween' our medical officers and the Greek medical officers. We admired the Greeks and their work and the Greeks reciprocated, plainly showing their appreciation of our work and help.

R e s u l t s.

Good results just had to follow such radical improvements, and they immediately became evident, as reference to the graphic chart* plainly indicates.

* Chart No 1, p. 18. Note the explosive outburst of cases from February 25 to March 1 inclusive; also that all cases charted from April 16 to 30 inclusive came from Kalamitza Camp; i. e., no new cases of typhus fever were found in Kavalla during this period.



CHARTS No. 1 and No. 2.

Briefly summarized, the number of new typhus cases uncovered in Kavalla, from February 19 to April 1 inclusive, was 398; this period of six weeks includes the statistics of the two weeks previous to our arrival and the four weeks of our active work in Kavalla. Divided into weeks the figures are as follows:

Feb. 19 to Feb. 25	135
Feb. 26 to March 4	139
March 5 to March 11	52
March 12 to March 18	46
March 19 to March 25	20
March 26 to April 1	14

The above figures speak for themselves and show conclusively the almost brilliant results obtainable given good organization and adequate equipment. Such results, brought about in such a short time, were a source of great satisfaction and pride to all concerned.

This marked decrease in the Kavalla epidemic, and the excellence of the Greek organization, made it seem no longer necessary for the American Red Cross to continue its full cooperation in Kavalla, especially as typhus conditions in Drama and Serres were distinctly worse than in Kavalla.

Therefore on April 2nd it was decided to send Captain White and Lieutenant Hodgson to Drama to study the typhus situation in that city; Lieutenant Binger was to remain in Kavalla to carry on, at the earnest request of Lieutenant Moutoussis. Lieutenant Clark left Kavalla at this time to return to America.

New Danger for Kavalla.

Before passing on to Drama, however, mention must be made of what seemed at first blush like a startling situation.

On April 8 a shipload of refugees arrived unannounced in Kavalla harbor. Rumors had reached Kavalla that more refugees were coming, but nothing definite was known as to their numbers or time of arrival. The ship contained 700 Greek refugees from Constanza and Varna, among them 5 certain cases of typhus fever and 31 suspects, all of whom were removed to the typhus hospital in Kavalla. The rest of the exposed refugees were kept on board the



Fig. 9.—Serbian Disinfecting Barrels, in full operation, Kavalla.

ship in quarantine and not removed until complete provision had been made for their isolation and care.

The situation was the exact counterpart of the tragic landing of the 2150 refugees at Kavalla on January 25, fraught with such disastrous results already so feelingly referred to.

The way these 700 fresh refugees were handled, however, brilliantly illustrates what a really good typhus organization can do in an emergency. The news that more refugees were coming, although absolutely indefinite as to number and time of arrival, was nevertheless quite suf-

ficient to bring about active preparation for their reception, and consequently, when they did arrive, unannounced, the typhus organization was ready for them.

An excellent site for a quarantine camp had been found and equipped on a point of land called Kalamitza, just west of Kavalla. The equipment of this camp was splendidly good and complete, consisting of sufficient small tents to accomodate all the refugees in groups of not more than 5 or 6 in each tent; several large hospital tents sufficient



Fig. 10.—Kalamitza Refugee Quarantine Camp, Kavalla.

to care for 60 patients with diseases other than typhus; an excellent emergency delousing plant (sufficient to delouse 300 persons and their clothes daily), consisting of well arranged shower-baths and a series of eight Serbian barrels, all new equipment put into an old house already on the grounds; also numerous tents for attendants and a fine kitchen kept scrupulously clean. The camp was strictly policed, and all danger of spreading typhus fever in Kavalla from this camp practically eliminated.

The first lot of refugees were taken from their quar-

antined ship to this quarantine camp on April 12, since which time, to May 1, 33 cases of typhus have appeared in the camp; but during this same period, April 12 to May 1, not a single new case of typhus fever has been found in Kavalla. Moreover, all the refugees in this camp have been vaccinated against typhoid and paratyphoid, the American Red Cross donating the vaccine for the purpose, also against small pox, the Greek Government furnishing the vaccine. It was an ideal camp, ideally located and



Fig. 11. — Another view, Kalamitza Camp.

extremely well managed, and furnishing a beautiful example of what a good, brainy organization can do.

In the opinion of your Medical Director, had the 2150 refugees of January 25 and 26 been handled in anything like the above manner, this report would never have been written.

As already stated, the typhus situation in Kavalla had improved so markedly by April 2nd that on that day it was decided partially to abandon Kavalla and proceed to Drama.

D R A M A

Drama is the capital of Oriental Macedonia and has a population of not more than 24000, about one third of whom are Turks.

On March 29 your Medical Director had a conference with Mr. Gotsis, the Governor-General of Oriental Mace-



Fig. 12.—Typhus Sentinel Post, Kavalla-Drama Road.

donia and Lieutenant Kyriazides, an able and experienced epidemiologist and the chief of the typhus campaign in Drama. At this conference the whole typhus situation in Oriental Macedonia was discussed and arrangements made for the co-operation of the American Red Cross in the typhus campaign in Drama along lines similar to those of the work in Kavalla. On April 3 Captain White and Lieutenant Hodgson arrived in Drama to begin their investigations in that city.

The American Red Cross work in Drama opened under

the most favorable auspices. Several conferences were held with Colonel Kanavatsoglou, who fortunately happened to be in Drama at that time, Lieutenant Kyriazides and Lieutenant Moutoussis; under the guidance of the above-named Greek medical officers an inspection of the Drama typhus equipment was made. Later a special study of the delousing stations was made, and recommendations offered for necessary improvements in technique; also thorough inspections of several of the Drama typhus districts were made to study the routine and methods used in the daily district inspections. Our officers also attended the daily evening conferences of the Drama anti-typhus organization.

The result of these investigations and observations made obvious these facts:

1. That the typhus epidemic in Drama was not severe, there being few cases among the natives at any time, the vast majority of cases being among the refugees with a moderate number among the soldiers.

2. That the typhus organization at Drama was good, though not so good as the Kavalla organization, but that it could quickly and easily be made so.

These investigations also unearthed the very interesting fact that there had been a severe typhus fever epidemic in Drama during the Bulgarian occupation in the winter of 1917-18. The epidemic began early in December, 1917, and lasted until June, 1918; there were about 5000 cases in all with 2000 deaths. For a community of less than 10000 people this was an excessive morbidity and also an excessive mortality rate, thus stamping the epidemic as severe in extent and type. The disease spread into Kavalla the latter part of December, 1917, and soon prevailed in epidemic form in that city; the total number of cases in Kavalla during the winter of 1917-1918 was about 1000 with 126 deaths.

It is very important to note that the mildness of the present typhus epidemic in Oriental Macedonia is probably due to this severe epidemic of 1917-18, as the number of typhus immunes in both Drama and Kavalla must necessarily have been large at the outbreak of the present epidemic*.



Fig. 13.—Typhus Hospital, Drama.

On account of the above findings, and with the advice of Colonel Kanavatsoglou, it was decided to be best for the American Red Cross medical officers to leave Drama and move on to Serres, where conditions had been and were at that time unsatisfactory.

* See Chart No 2, p. 18, for the history of the typhus epidemic at Drama in 1919.

S E R R E S

Before the Balkan Wars Serres was a prosperous tobacco and sheep center and had a population of 25000. It was sadly devastated by the Bulgarians during the Second Balkan War in 1913 and now has hardly 11000 inhabitants.



Fig. 14.—Refugee Quarantine Camp, Drama.

The typhus campaign in Serres was not being well handled.

Your Medical Director had had abundant opportunity during the last two weeks in March to study the typhus situation in Serres. His investigations and observations brought out the following facts.

1. That the physical typhus equipment in Serres was adequate, in fact better in many respects than that of either Kavalla or Drama, consisting of:

- a. An excellent typhus hospital with tents sufficient

to care for 140 patients. To this hospital all typhus patients were sent, refugees, civilians rich and poor, soldiers and officers—a system much more desirable than having three separate hospitals for different classes of people as in Kavalla. One hospital for all classes economizes medical and nursing care as well as all other hospital work and in addition minimizes the danger of spreading infection, which of course is a big item always to be considered.



Fig. 15.—Delousing Plant on Kavalla Road, Drama.

b. A convalescent hospital, well equipped to care for 40 patients.

c. Three detention camps situated at the three entrances to the city, one on the Salonica road, one at the railroad station, and the third on the road leading to the villages east and north of the city. Each detention camp has its own delousing plant. Before being allowed into the city all refugees as well as other suspicious persons were deloused at one or the other of these detention camps and afterwards held there in quarantine for fifteen days.

d. A central delousing plant, a fine old Turkish bath,

well arranged and capable of disinfecting 400 persons with their clothing daily.

2. That the anti-typhus organization in Serres was sadly inefficient, this inefficiency being partly due to the fact that the authority for the management of the campaign did not rest securely in one person; inefficient too because the ostensible head of the organization was not an experienced epidemiologist. It is veritably impossible to manage any epidemic successfully with the above conditions prevailing in the organization.

Consequently the population of Serres suffered unduly from typhus fever and furthermore would continue to suffer unduly just so long as their typhus organization remained so fundamentally faulty*.

Our Medical Officers in Serres.

Such were the conditions confronting our medical officers, Captain White and Lieutenant Hodgson, when they arrived in Serres on April 11. Plainly there was much work mapped out for them in their new station. They followed pretty much the same program as already carried out so successfully in Kavalla and Drama -- careful inspections of delousing plants and medical inspections of the different city sections, followed by suggestions and recommendations.

Later two city sections were turned over to them, each with a full corps of assistants, and they took over the responsibility for the daily medical inspections of these sections.

* See Chart No 3, p. 29, showing the course of the typhus fever at Serres. Note the marked increase in cases during March and the first week of April; during this same period of time typhus conditions in both Kavalla and Drama had distinctly improved.

Of course this was useful work, but no radical improvement in the Serres typhus work could be expected until the whole typhus organization was overhauled and renovated.

That the people of Serres did not have complete faith in their organization, not even in their American doctor, is shown by the following interesting quotation from Captain White's report. «Yesterday an interesting religious procession chanted its way through my section to scare



Fig. 16.--Typhus Hospital, Serres.

away the pestilence of typhus. Boys bearing holy banners and relics, priests in their robes and crowds of people bearing lighted candles trudged along in broad daylight».

After exasperating delay, the much desired reorganization finally took place. An entirely new typhus organization was formed at a meeting held on April 23rd, attended by the Nomarch, Colonel Kanavatsoglou, doctors, priests and school teachers. At this meeting Lieutenant Kyriazides, an expert epidemiologist, was definitely placed in charge of the Serres campaign by Colonel Kanavatsoglou.

glou, thus replacing the old regime under which things had gone so laxly and badly. Our representations to Colonel Kanavatsoglou had had much to do with bringing about this all-important move.

From now on the situation began to improve; there was however a considerable increase of cases during the first week in May, due, in the opinion of our medical officer, to the careless work done by the officials during



*Fig. 17.—Captain White's Inspection Group for
Section 1, Serres.*

the four Easter holidays, April 18 to 21 inclusive, some of them neglecting their inspections almost entirely.

A good idea of the undiscipline prevailing in the Serres organization may be had by noting that one physician was penalized to two weeks' confinement for failure to report a dying typhus case, and other penalties are pending for two other physicians for failure to report cases.

The latest report from Serres shows the typhus situation in that city to be at last quite satisfactory, and our medical officers confidently feel that by the end of May

at the latest the epidemic of typhus fever in Serres will have been entirely wiped out.

On account of this decided improvement in the typhus situation in Serres there seemed to be no longer need for our cooperation; therefore on May 27th our medical officers ceased work in the city of Serres.

On March 23 your Medical Director accompanied by Lieutenant Kyriazides made a flying visit to Demir Hissar, a picturesque little city of 6000 inhabitants, situated on the Struma River and about 30 kilometers from Serres. We found the same old story — sufficient equipment, but poor, — very poor, — organization, in fact easily the worst anti-typhus organization we had so far seen in Macedonia. In consequence this beautiful little city was also suffering unduly from typhus fever. Up to the time of our visit Demir Hissar had had just 100 cases of the fever with 10 deaths*.

With the work in Serres over, the share of the American Red Cross in the anti-typhus campaign in Oriental Macedonia ended. There is no more typhus fever in Kavalla, no more typhus fever in Drama, only very occasional cases in Serres, and, as we hear, none at all in Demir Hissar.

* See Chart No 4, p. 29, for the course of typhus fever at Demir Hissar. Note the alarming increase of cases during the month of March, during which month decided improvement in the typhus situation in both Kavalla and Drama had taken place. The Demir Hissar authorities claimed that practically all the new cases of typhus fever occurring in Demir Hissar during the first part of March were found among the refugees sent there with clean bill-of-health certificates from Kavalla.

GENERAL COMMENTS

1. The total number of typhus cases occurring in Oriental Macedonia in the four most important centers of infection for the period from January 1, 1919, to May 1, 1919, which period practically covers the whole life of the epidemic, was 1318 with 168 deaths, making the average mortality rate for the epidemic 12.74 %.

It may be interesting to note the following division of the statistics:

<i>Place</i>	<i>Total Cases</i>	<i>Total Deaths</i>	<i>Mortality Rate</i>
Kavalla	647	86	13.29 %
Drama	222	28	12.60 %
Serres	310	42	13.55 %
Demir Hissar	139	12	8.63 %
	1318	168	12.74 %

Therefore it will be seen that the epidemic of typhus fever in Oriental Macedonia in the winter and spring of 1919 was not severe either in extent or type.

2. The sanitary authorities were notoriously lax and negligent in the measures taken to control the epidemic in its early stages; in some instances their methods really encouraged rather than checked the epidemic. Not until February 25th and after did the authorities adopt anything like proper methods to control the epidemic, and then only in Kavalla; in other places much later; in Serres for instance not until April 23rd was an efficient anti-typhus organization formed.

3. The Greek anti-typhus organizations as finally formed were model and efficient bodies. The Greek medical officers are exceedingly well-trained men and entirely

competent to handle properly important public health problems.

4. The co-operation of the American Red Cross with the Greek authorities in the anti-typhus campaign in Oriental Macedonia was satisfactory from every point of view. The plan of co-operation worked smoothly and well, and can be urgently recommended for similar situations. The part played by the American Red Cross in helping



Fig. 18.—Typhus Commanders for Oriental Macedonia: left to right, Lieutenant Kyriazides, Colonel Kanavatsoglou, Colonel Schultze, and Lieutenant Moutoussis.

to control the epidemic was well worth while: we brought to the Greeks both morale and intrinsic service.

5. We gave the Greeks much advice, a commodity not usually highly appreciated, especially when given often and free; in addition, however, the American Red Cross contributed the following supplies, all directly concerned with the typhus situation: for the Mayer hospital, Kavalla, 330 hospital bed-shirts, 1000 pairs socks, 450 mens' flannel shirts, 400 mens' drawers and 500 mens' undershirts; also

100 typhus blouses for the doctors, nurses and attendants in the Kavalla hospitals and delousing stations. We also furnished all the bread used at the Kalamitza camp, the tent quarantine camp, for the 700 refugees arriving April 8; this distribution began on April 12 and continued until May 30. Two large tents were contributed by us to this camp. In Drama typhus blouses were provided for the doctors, nurses and attendants in the Drama hospitals and delousing stations. All this, taken altogether, was not a large contribution, but it helped.

SPECIAL AND FINAL COMMENT

The entire personnel of the American Red Cross in Oriental Macedonia conducted themselves splendidly during the whole period of the epidemic. Facing an epidemic of a strange disease in a strange land is no laughing matter, yet our personnel to each man, to each woman, showing not the slightest fear, the slightest panic, remained on duty, faithfully performing their unselfish work of carrying relief to the sick and needy, just as if no such thing as typhus fever existed.

Such faithfulness, such fortitude, came high, and unfortunately the price was exacted; one after another five American Red Cross workers in Oriental Macedonia were stricken with typhus fever contracted in the line of duty.

Lieutenant Edward Walker of New York City and Blacksburg, Va., contracted typhus fever in Kavalla and was taken sick in Drama on February 19. He arrived in Athens February 23rd, an extremely sick man, in spite of every care and attention. His condition continued desperate until his death on March 3, 1919.

Lieutenant Kenneth A. Thomas of Bridgeport, Conn., contracted typhus fever in Kavalla and was taken sick in Kavalla February 22nd, had a mild type of the disease, convalesced well and rapidly, and was able to return to light duty the first part of April.

Miss Clarissa A. Blakeslee of Philadelphia, Pa., contracted typhus fever in Kavalla and was taken sick in Drama February 21st, had a severe type of the disease, and convalesced satisfactorily.

Miss Florence A. Stone of Plainfield, N. J., contracted typhus fever in Kavalla, and was taken sick in Serres March 11; she had a severe type of the disease, and is now in Athens completing her convalescence.

Lieutenant J. H. Hodgson of Boston, Mass., contracted typhus fever in Serres and was taken sick in Serres April 26th; he is now in Athens completing his convalescence. Lieutenant Hodgson was a member of the American Red Cross anti-typhus medical unit and undoubtedly contracted the disease as a direct consequence of his daily association with many typhus cases.

P E R S O N A L

I wish to take this opportunity to thank the following Greek officials and officers for their unvarying courtesy and kindness to me personally and to the organization which I represented, the American Red Cross.

Mr. Gotsis, Governor General of Oriental Macedonia; General Negroponte, ranking army officer of the Kavalla District at the time of my arrival in Kavalla; Colonel Kanavatsoglou, Surgeon-General of the Greek Army and General Commander of the typhus work in all Macedonia; Colonel Kourtakis, Chief Medical Officer of the

13th Division, Greek Army; Major Syrichas, Commander of the typhus organization in Serres; Lieutenant Moutoussis, epidemiologist and Commander of the Greek typhus organization in Kavalla; and Lieutenant Kyriazides, epidemiologist and Commander of the typhus organization in Drama and Serres.

Our relations with Colonel Kanavatsoglou, Lieutenant Moutoussis, Lieutenant Kyriazides and Major Syrichas were unusually intimate and personal, and I feel that any success that attended the efforts of the American Red Cross medical unit in Oriental Macedonia was largely due to the splendid personal feeling that existed between these four men and ourselves. We appreciated them and they appreciated us; they deserved it from us, and we deserved it from them. This sort of mutual-admiration society helped tremendously; it made our work easier, pleasanter, more worth while and undoubtedly more efficient.

For the members of our own medical unit, Captain White and Lieutenants Binger, Hodgson and Clark, I have only praise; they did their work in Macedonia faithfully and well. Such a group of men would make any organization a going concern and I wish to thank them for their loyalty and cooperation throughout the campaign.

Also I wish to thank Mr. Hill, Director of the American School at Athens, for his invaluable services as secretary, interpreter, diplomat and adviser to the medical unit.

Finally I wish to thank the trained nurses Miss Hartz, Miss Martin and Miss Addison for their splendid, self-sacrificing and skillful nursing of our personnel sick with typhus. I saw a great deal of their work and I know they deserve all the praise being heaped upon them.

F I N A L E

The typhus epidemic in Oriental Macedonia is over, and it will always be a pleasure to be able to look back and say that the American Red Cross helped to «put it over» and helped to check the Typhus Fever Epidemic in Oriental Macedonia in the winter and spring of 1919.

PUBLISHED REPORTS OF THE AMERICAN RED CROSS COMMISSION TO GREECE

- The American Red Cross in Greece, by Lieutenant Colonel Edward Capps.
 Final Report of the Department of
 Civilian Relief, by Major A. Winsor Weld.
 Relief Work in Eastern Macedonia; . .
 Organization; The Bulgarian Stations, by Lieutenant Colonel Edward Capps.
 The Period of Full Activity, by . . . Major Horace S. Oakley.
 The Last Phase, by Major Henry B. Dewing.
 Statistical Summary
 Relief Work among the Villages of Mount
 Pangaeon, by Lieutenant Grosvenor C. Barry.
 Relief Work on the Aegean Islands, by . Major A. Winsor Weld.
 The Typhus Epidemic in Eastern Macedonia, by Major Samuel J. Walker.
 The Hospitals of Greece (a critique), by Major Carl E. Black.
 A Survey of the Hospitals of Greece, by Major Carl E. Black.
 Πῶς μπορεῖ ἡ Ἑλλάς νὰ παράγῃ περισσότερα τροφίμα. (How Greece Can Produce More Food) by Major Cyril G. Hopkins.

Copies of the above reports can be obtained by application
 to The American Red Cross, Athens.

THE AMERICAN RED CROSS

COMMISSION TO GREECE

RELIEF WORK AMONG THE VILLAGES
OF MOUNT PANGAEON

BY FIRST-LIEUTENANT G. C. BARRY

Athens

June 1, 1919

ATHENS

PRINTED BY P. D. SAKELLARIOS

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RELIEF WORK

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THE EARLY STAGE

On November 6, 1918, a party consisting of Lieutenant-Colonel Edward Capps, Commissioner to Greece, Major Carl E. Black, Major Clifford W. Barnes, Mr. B. H. Hill and Mr. C. W. Blegen left Athens by rail on a mission of investigation in Eastern Macedonia. The Greek Commission had arrived in Athens only two weeks before this date. At that time it controlled not one pound of supplies, and had only the hope of coming shipments with which to organize relief work. In Salonica much information was gathered as to conditions prevailing in Eastern Macedonia, and it was ascertained that Greece was at that moment faced with the serious problem of repatriating many thousands of refugees who had been, during the war, held as prisoners in Bulgaria.

These refugees were then straggling back toward their homes in the different parts of Eastern Macedonia. The attention of Colonel Capps and the other members of the party was called particularly to the mountainous region of the Pangaeon, where the country had been most severely devastated, inasmuch as the villages of this district lay within the limits of the second and third Bulgarian lines of defense, and almost the total population had been deported from their homes. It was obvious that here was a field of special need, and immediate action was necessary.

In order to make provision for the campaign of relief

work in the Pangaeon district, as well as in other needy parts of Eastern Macedonia, a supply of food was taken from Salonica amounting in all to thirty-five tons, thirty tons of which was contributed by the Serbian Commission of the American Red Cross and five tons by Governor-General Adossides. It was foreseen that the question of transport into the Pangaeon district would be a serious one; consequently Governor-General Adossides commandeered six ox-teams and put them at our disposal in order that our workers might be equipped to send supplies from Kavalla westward into the Pangaeon towns.

The party left Salonica November 10th and reached Kavalla on November 12th, sailing on the ship «Hellespontos», commandeered for their use. All the supplies mentioned above, together with the six ox-teams and one Sunbeam car provided by Governor-General Adossides, were transported on the same ship.

Upon arriving at Kavalla, which had been selected as a base of operations for Eastern Macedonia and Bulgaria, the reports already received in Salonica as to the Pangaeon district were amply confirmed. Mr. Leroy Steele and Mr. James Arrington, American tobacco merchants, were particularly eager in urging that the work of relief be undertaken for the Pangaeon towns, and were able to contribute valuable suggestions and, furthermore, volunteered active co-operation in getting the work organized.

On the Thursday following the arrival of the party in Kavalla, Mr. Andreas Djimou, a resident of Drama and Kormista, one of the Pangaeon towns, came in to Kavalla and gave confirmation to the reports already received, urging that relief be sent at the earliest possible moment.

It was realized fully that the situation was indeed a difficult one and apparently one which the Greek Government was unable at the moment to meet. The difficulty of transportation from Kavalla to the Pangaeon

towns was enormous, and the task would have appeared hopeless except to the stoutest souls.

It was decided immediately to launch forth on the enterprise, Mr. Blegen being designated to take charge of the Pangaeon district, and the six ox-teams brought from Salonica were loaded and instructed to proceed one day's journey westward to the town of Kormista, where the first distribution was to be made. Meanwhile Mr. Blegen, accompanied by Mr. Steele, proceeded to Drama by British Army automobile, and from there traveled on horseback in company with Mr. Djimou and Mr. Steele on Sunday to Kormista. There living quarters were provided by Mr. Djimou, and warehouse facilities for the goods were put at the disposal of Mr. Blegen.

Mr. Blegen then proceeded to an inspection of the situation, endeavoring to estimate the degree of need and to secure such information as would enable him to make an intelligent distribution. In making this inspection and in the subsequent distribution Mr. Blegen instituted the admirable method which was followed constantly through all the stages of the Pangaeon work—the method described in detail by Lieutenant Barry in the following report.

Three days later the six ox-carts arrived from Kavalla, bringing the first shipment of supplies, and distribution was immediately commenced and continued for about three days. In this first distribution eleven towns were served, the recipients of food and clothing being limited to the lowest possible number in view of the small quantity of supplies.

Further distribution required further shipments, and in order to get these shipments out it was necessary for Mr. Blegen to return to Kavalla. The only person left in Kavalla was Miss Gladwyn, of the Serbian Commission, who had accompanied the party from Salonica; but she was not able unaided to attend to the details of shipments.

The other members of the party had proceeded to Bulgaria and were organizing work there.

The ox-carts which had carried out the first shipment vanished entirely during the return trip from Kormista. They never appeared again and nothing was ever heard of them. The drivers, it would appear, had come unwillingly, and only waited for an opportunity to disengage themselves from an assignment which was not to their liking. They did not even return for their pay for the one trip they had made.



Intensive farming in the Pangaeon. An old Turk of Osmanli with cow and donkey hitched to his home-made wooden plow.

This loss of the ox-carts complicated the transportation problem. In order to replace them Mr. Blegen, with much difficulty, secured four one-horse carts and three ox-carts. These carts were loaded with supplies and dispatched immediately to Kormista. Later ten military carts were added to the «fleet» of Red Cross transport.

Once more Mr. Blegen, accompanied by Mr. Steele, went to Kormista, this time by way of Pravi. Between Pravi and Kormista Mr. Blegen and Mr. Steele were lost on the mountain-side, owing to the lack of information of their guide, and did not reach their destination until midnight.

A second distribution was made during the first week.

in December, and the lists of beneficiaries were enlarged in view of the increased quantity of supplies now available.

The transport for the next shipment was provided entirely by the Greek Army through the courtesy of General Joannou. Mr. Blegen, who had meanwhile returned from Kormista, went for the third distribution by way of Drama, accompanied by Mr. Miller and Mr. Taylor, who had recently arrived from Athens. After the completion of the third distribution Mr. Blegen left Mr. Miller and Mr. Taylor at Kormista, having made proper arrangements for supplies for further distributions, and having secured an interpreter from Pravi. The fourth distribution took place under the direction of Mr. Miller during the last days of December. The food dispensed in these first distributions amounted to 39,384 rations; 5,263 garments and 228 blankets were issued. The lists of beneficiaries contained the names of 3,550 persons.

The station at Kormista remained under command of Mr. Miller until the appointment of Lieutenant Barry as head of the Pangaeon district, on January 27th. During the period of January 1st to 27th three distributions were made on the following dates: January 1st, 16th and 25th. The number of persons served was increased to 4,641.

After the month of January increased amounts of supplies for Eastern Macedonia made possible a greatly extended program of distribution in the Pangaeon towns. The work which began for a few villages on one side of the mountain, and for a very limited number of the population of those villages, grew to embrace fifty-seven villages and seventy-six per cent of the total population of the whole region. This period of expansion is fully treated in the following report.

Major Henry B. Dewing,
Commanding Macedonian District.

Athens, June 1, 1919.

THE PERIOD OF EXPANSION

Kavalla, May 26, 1919.

From: First-Lieutenant G. C. Barry.

To: Major Henry B. Dewing.

Subject: Pangaeon Relief Activities.

The Pangaeon region is a mountainous area of some three hundred square miles in the eastern part of Macedonia. It is bounded on the west by the well-known Struma Valley, within recent years referred to by the British as the «white man's grave»; on the northeast by the Plain of Philippi; on the southeast by the fertile Musthenie Valley, and on the south by the sea, beyond which rises Mount Athos about forty miles distant. This section of the country is generally referred to as the Pangaeon Mountain. It is in reality a range about thirty miles long, unequally divided by the Musthenie Valley. At its highest point Mt. Pangaeon is some six thousand feet above the sea and up to the present time the top has been covered with snow.

The climate is moderate, although during the past winter there have been several snow storms and a great deal of rain. The country, other than the cultivated portions, which are used exclusively for the growing of the finer grades of Macedonian tobacco, is wild and rocky, covered in part with a spare growth of brush. This brush

is filled with a dozen or more species of wild birds, some exquisitely colored, which always proved a source of enjoyment during the long rides around the mountain. This spring the wild flowers were the most beautiful I have ever seen and grew in rank profusion. There are also large numbers of hare, foxes and some boar which infest



A group of Turks from the devastated Musthenie Valley, ready to carry away their generous share of Red Cross supplies, the whole family assisting.



Greek school children at Rodolivos, changing, in the street, their old clothes for the new garments just given them by the American Red Cross.

the mountain and which are caught occasionally by the inhabitants.

The fifty-seven villages in which the population of this section lives are grouped in a rather oval formation around the base of the range. The number of inhabitants, according to a census which we took as of April 1, 1919, is 30, 208.

In 1917, at the time of the enemy invasion, this country was entirely occupied by the Bulgarian troops, later reinforced by a division of Turkish troops. All that the people of Belgium suffered, which has been given a great deal of publicity, has been endured by these people in

Macedonia, perhaps even to a greater extent. All books, schools, churches and monasteries were destroyed, and the first of the population actually murdered on the scene were the priests and school-teachers, the idea being to stamp out the Greek language and substitute Bulgarian. I have heard that posters were placed advising the remaining population to begin immediately the study of the Bulgarian language.

The Pangaeon Range itself acted as a «bumper» between the Bulgarian troops and the Greek and British troops assembled on the southern side of the Struma River. Numerous supply roads were laid down throughout the mountain, over which ammunition and guns were brought to the fighting forces on the southeast. Nearly all of the towns suffered from destruction, some from actual shelling, both from the sea and from the British aeroplanes which flew over this territory at very frequent intervals. However, the greatest amount of damage was pure wanton destruction, as the houses were torn down for wood, which the enemy troops used for firewood.

At the time of the Bulgarian occupation all males between the ages of fifteen years and seventy years were rounded up and sent either to Drama or Kavalla, and thence into Bulgaria. This left the old men, women and children entirely unprotected and at the mercy of the invading troops. Those who were left were forced to work on the roads, which were excellently built and are evidently the work of qualified engineers; but during the past winter many of them have been washed out in so many places that they are impassable to wheeled traffic.

There is but little food-stuff raised in this district, all the arable land being given over to the raising of tobacco. There being no tobacco this year, the population was unable to buy foods of any kind, the usual sources of supplies having been stopped, and simply lived on the Bul-

garian allowance, which consisted principally of a small portion of bread and weak soup. During the occupation 5,196 people died of starvation in this region. Dozens of cases of actual atrocities committed upon the civilian population have been brought to my attention, and incidentally I have heard of a great many more. It is interesting to note that a great many of these atrocities perpetrated on the people are laid at the door of the Turkish rather than of the Bulgarian troops.

On January 27 the district was assigned to me by Major Oakley, who had been advised from various sources that immediate relief was needed in this section, with instructions to include all the towns around Mt. Pangaeon, since, owing to the great difficulty of securing transportation and the shortage of food supplies, the Greek Government was not in a position to offer relief to the people at that time, and the American Red Cross seemed to be the only possible source of help. On that day I started a canvass of the Pangaeon villages, going to Drama by camion from Kavalla, and thence on horseback to many of the towns which comprise this group, accompanied by a Greek interpreter. Prior to this time, that is, late in November of 1918, Mr. C. W. Blegen, with the aid of Mr. Leroy Steele, an American tobacco buyer, had gone over the Pangaeon situation and established headquarters with Mr. Djimou, a Greek tobacco buyer, at Kormista. This is not the logical point of distribution for many of the Pangaeon towns, as it is too far away from the majority of them, and causes an unnecessary amount of walking on the part of the inhabitants. Just as soon, therefore, as a regular program of distribution was laid out, this station at Kormista was immediately abandoned, and has not been used since that time. This earlier period is fully covered in the preface to this report.

After obtaining an approximate estimate of the number

of needy people in the Pangaeon, it was decided that at least three stations would be necessary in order to feed these people regularly, and at the same time have a distributing center within a reasonable distance from the towns to be fed. After careful surveys of the British government maps, which we were fortunate in securing, and personally visiting a large number of villages, it was decided to establish these three stations in the towns of Rodolivos, Pravi and Musthenie. This gave us a base for the north Pangaeon towns, the towns to the northeast and east at the end of the mountain, and a station taking care of the villages at the south end of the mountain. The first station actually to begin operation was at Rodolivos. Arrangements had been previously made whereby a good magazine was secured for our supplies, suitable also for a distributing center. Also, a building was made ready for a dispensary, and two good rooms secured, with the help of the Mayor, for our personnel. Mr. Taylor was put in charge of this station, assisted by a Greek soldier as interpreter, who, by the way, deserves a great deal of credit for his good work and the interest which he took during the time of our stay there. The superintending of the food and clothing distributions, as well as the keeping of the record-book, was done by him in a most intelligent and efficient manner. Shortly after commencing operations, the need of opening the dispensary strongly presented itself, and we were fortunate in securing the services of Miss Porter, who, despite the handicap of not knowing the language, seemed to understand the people and was able to minister to their wants. Unfortunately, Mr. Taylor was taken ill with typhoid fever, and, as Miss Porter had to give up a great deal of her time in taking care of him, the dispensary work naturally suffered. Lieutenant Thomas was sent to us from Kavalla to take over Taylor's work, and performed his duties creditably until the closing of the station.

Miss Mingane was also sent up to relieve Miss Porter, who, toward the end of our stay, was able to get back to the dispensary work. Besides the dispensary, which was operated on an average of four hours a day, Miss Porter also superintended the sewing-room, where we employed six women, a cutter and forewoman.

Three days later the distributing station at Pravi was opened, similar arrangements having been made there



Street scene in Pravi with bazaar in background; showing group of villagers, some in native costume.



Types of Greek refugees from Kieup-Kioy; awaiting their turn at the distributing station at Rodolivos.

with regard to living quarters for the personnel, a magazine and a suitable location for our dispensary. Lieutenant Lemon was placed in charge of this station, while Miss Zacca took over the dispensary and *ouvroir* activities. After Lemon's motorcycle accident, Lieutenant Schmunck was assigned to this station and carried the work on with unfailing interest. Our first distribution from Pravi was made on February 6, while our last one took place on May 3. During that time we made regular daily distributions six days a week, and with the exception of Sundays

the personnel did not have a single minute of play-time.

The need of another station further south than Pravi hastened the execution of the plans already formulated, and a distributing point at Musthenie was opened on February 13th; tickets for supplies were immediately issued to the towns of the Musthenie Valley, and in two days' time after the arrival of our supplies, the station was in full swing with a work-room, all in charge of Lieutenant Stoughton. After Lieutenant Stoughton was removed from Musthenie for other work, we were very fortunate in securing the services of Lieutenant Reirden, who completed the work already begun and closed up the station in a very commendable manner.

Beside the personnel above mentioned at each station, we were assisted by an interpreter for each of the officers in charge, and a staff of five Greek soldiers who worked in the magazines at the food and clothing distributions. These soldiers were attached to our service through the courtesy of the Greek Army. Beside these helpers we also had the necessary personal servants at our living quarters, and at one time, in the whole Pangaeon district, there were 24 Greek-speaking persons in our service. This, of course, does not include the workshop employees.

The towns tributary to the several stations, and the number of people fed from each, are as follows. In the case of Gorgani and Dranich, the number of persons fed exceeds the population as shown by census. This is due to the number of refugees from destroyed villages living there; they are not included in the census of these towns, but are assigned to the villages from which they originally came.

<i>Pravi</i>		<i>Rodolivos</i>		<i>Musthenie</i>	
Name of town	Number of persons fed	Name of town	Number of persons fed	Name of town	Number of persons fed
Pravi.....	2.281	Rodolivos....	2.398	Musthenie...	851
Ilejik.....	102	Provista.....	547	Sarli.....	142
Avli.....	324	Kioup-Kioy..	1.483	Boblen.....	264
Kotsani.....	104	Chepelge....	337	Fteri.....	33
Tosliani.....	143	Straviki.....	246	Veliojiler...	77
Meseli.....	57	Anghista....	347	Devekli.....	92
Nikisiani....	1.896	Vitasta.....	858	Demerli.....	134
Gorgani.....	561	Vulchista....	133	Kargani.....	89
Dranich.....	521	Drachova....	60	Kuleli.....	113
Dranova.....	150	Neochori....	17	Podogoriani..	616
Dresna.....	183	Doxombus..	113	Dranli.....	65
Devekeran...	61	Kormista....	592	Mousalou....	71
Leftera.....	934	Chereplian...	473	Tsiflik.....	87
Kotskari.....	216	Lokovikia...	830	Ahartlar.....	122
Paleochori...	1.070	Semaltus....	697	Osmanli.....	115
Bostanjili...	515	Banitsa.....	211	Isirli.....	285
Tourmoslou..	184	Kochoki.....	239	Mesoropi....	1.009
				Tsitakli....	109
				Samokovo....	217
				Rahimli.....	83
				Dedebali....	119
				Mentesili....	25
				Mousourtseli.	41
	9.302		9.581		4.759

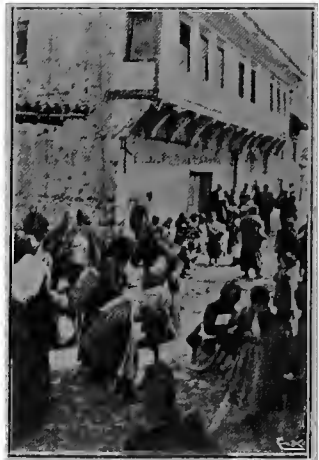
The next question to decide was that of the actual distribution. Two ways seemed possible. We could procure from the mayors of the different villages lists of the number of people who were worthy subjects for Red Cross help; an allotment of staple foods, based on the number of people in each village, could have been turned over to each mayor for distribution within his jurisdiction. This method had been employed with some success in other sections of the Macedonian work. The second plan which presented itself was that of making small individual donations directly to the people themselves from Red Cross magazines rather than through the medium of any of the town officials. This second method entailed a far greater

amount of work than the first, but to make the people feel that the gift was personal, and also to spread the Red Cross propaganda in as highly efficient a way as possible, this latter method of personal distribution was finally adopted.

After adopting this plan, the next step was to procure a list of those to be helped, and the method followed in procuring such a list was somewhat as



Loading mules at Rodolivos with the gifts of the Red Cross. One little animal carries the burdens of several families.



Street scene outside the Red Cross distributing station at Rodolivos. Refugees packing up supplies before starting on the homeward journey.

follows: From our headquarters at the distributing stations the mayors of certain villages were asked to report, at which time they were requested to prepare lists of the most worthy and needy inhabitants of their towns, particularly those who had suffered as a result of the war. Usually the next day these lists were brought to us, and with the mayor and an interpreter each list was gone over and questions asked with reference to each name. Some of these questions no doubt seemed rather person-

al; but we were there, not simply to give away what we had in the magazines, but to distribute it to those who were in greatest need of it. The first question asked of the mayor, and of the worthy deputies who usually accompanied him on such visits, was how much money the proposed subject for help was supposed to have. The second question was whether there was any tobacco in his house, and if so in what quantities. Similar questions followed with regard to live-stock and personal property. If the subject in question was engaged in any business, if for example he were a coffee-house keeper, storekeeper, boot-maker or tailor, his name was immediately cut from the list. However, if it seemed evident that the person in question needed help, a ticket was issued with the name of the village and a number marked thereon.

These tickets were given to the mayor and the list marked with a corresponding number, so that he distributed the tickets to the proper families. A record of the name and of the number in the family was then entered in our record-books, and upon presentation of this ticket the proper allowance was meted out to the holder, the date of receipt being marked on the face of the ticket and a record of the disbursement in okes entered in our record-book.

These record-books, as above mentioned, will probably prove of interest and bear a further detailed description. We were not supplied from Kavalla with any means of keeping permanent records and were therefore very fortunate in securing three large civil record-books that had been printed for the use of the Government and answered our purpose admirably. All of the catalogues that we received from the mayors of the different villages were written in Greek, and to transcribe the information that was essential for our records the services of an interpreter were necessary. From the catalogues, then, the interpreter would

read the name of the head of each family and the number of persons in the family, and this information would be set down on the pages assigned to each town. Then in the ruled columns to the right of the names would be inserted the amount of foodstuffs which were distributed and the dates of such distributions, under the proper headings, such as Flour, Sugar, Lentils, Raisins, or Milk, whatever the case might be. In this way we were able to keep an exact record of the work done, and one which included the names and addresses of the people helped, as well as the exact number of oke of food, the number of cans of milk, cakes of soap, etc. Regarding clothing, the number of articles that we had to distribute was too varied, and our books too small to allow a column for each article; so we simply used three columns, headed Men, Women and Children. In this way it was possible to keep a record of who received clothing (four pieces were generally given at a time), and this record prevented duplication and made it impossible for any of our people to get more than their share, a thing which is so likely to occur when clothing tickets are issued and no record kept of the names of the recipients. The same ticket that was used for the food ration was used to secure clothing, and only upon presentation of this ticket were any donations made.

After a few weeks the officers in charge of the three stations learned to know the people as they came for their weekly allowance, and whenever a ticket was lost a record of the number was kept, and when it was presented by other than the original holder, it was immediately taken away and returned to the rightful owner. The names of the ticket-holders were not shown on the face of the tickets themselves,—only a number,—but, as before mentioned, the name was set down in our books after the numbers, and, by asking the ticket-holder his or her name, and referring to our records, an absolute check

on the identity of the holder was possible. We therefore feel very sure that only those actually entitled to receive the bounty of the American Red Cross did so; indeed we found very little unfairness or desire to receive more than their share on the part of the Pangaeon people. Some of our lieutenants found the keeping of these books rather irksome at first, but after seeing and realizing their value and finding with what ease a weekly or monthly report could be made up from the information contained therein, they all very gladly kept the records up in splendid shape.

The actual working system employed in a food distribution was as follows. The people of the villages or town which had been previously instructed to report on a certain day each week usually arrived very early in the morning at our distributing center. The magazines were opened at eight-thirty, and the holders of tickets were lined up outside the magazines and passed inside as quickly as we were able to take care of them. Upon entering, the ticket was handed to the Red Cross lieutenant in charge, who referred to the record-book, made the proper entries, and then called off the number of oke of food-stuffs to which the ticket-holder was entitled, addressing the Greek interpreter, who translated the order into Greek; the soldiers who did the actual distribution then gave out the required amounts to the person who had come for the family donation. The people always came for their supplies equipped with bags in which to take away the flour, rice or whatever we happened to be giving, and, as the measures which were used in doling out the food were made to contain just one oke, only a very few moments were required to serve rations to a family. The family representative then passed out by another door, his or her place immediately being taken by the next in line. All this was done in a quiet, orderly manner, and without confusion, the entire distribution

being conducted in a very businesslike manner. Food was generally issued in the mornings; the magazines then closed for an hour at lunch, and clothing was distributed during the afternoon.

Inasmuch as the number of people to be fed from each station amounted to more than could be handled daily, it was so arranged that rations were issued to the individual towns weekly. This had its advantage in the fact



Refugees from Paleochori; returning from Pravi with Red Cross supplies, being obliged to take a five-hour walk each way.



Gypsy women at the Musthenie station; clothed in rags, awaiting a distribution of flannel pajamas—the only available articles of clothing they would wear.

that the recipient of food donations was only obliged to come to the distributing station once a week. Some of the villages are a considerable distance away from the points of distribution, in some cases necessitating a five-hour walk each way.

In this entire region, among a population of 30,208, there are only ten civilian doctors. For this reason dispensaries seemed doubly wonderful to them, and the fact that they were able to procure free drugs and medical

attention proved a real blessing. The dispensaries, although opened from four to sometimes six or seven hours a day, were not able to take care of all the people who sought admission. Always among an ignorant and poor population there are a good many casualties, and a good many cases of gunshot wounds, toes and fingers severed by knives and axes, and dog-bites, received immediate treatment which, left to the native formulas, would no doubt have proved serious and perhaps fatal.

During the latter part of February a shipment of sewing machines was received at Rodolivos and Pravi, and immediately sewing-rooms were organized at both these stations. At the same time Miss Porter was sent to Rodolivos to open a dispensary, and took charge of the sewing-room there. At Pravi this activity was handled by Miss Zacca, and before the station was closed on May 3rd. we had nineteen sewing machines in operation, with one forewoman and one cutter. Piece-work rates were employed at this station, a plan which we found to be satisfactory, the station turning out an average of some one hundred and fifty garments a day, all sturdy and well made. We were very fortunate in securing a fairly good quality of heavy material for our work-rooms, which made up admirably into boys' suits, women's skirts and children's clothes, all of which will give good service and wear. As we were unable to procure additional sewing machines, we found six women in and around Musthenie who owned sewing machines and who very gladly volunteered to work in a sewing-room. A sewing-room was therefore established at Musthenie and it did very creditable work, its output comparing favorably with that of our two other work-shops equipped with machines owned by the American Red Cross. In closing the *ouvroirs* the sewing machines were not in all cases given to the original operators, but to needier women in some of the other villages. At Pravi we gave away five

machines to the villages of Nikisiani, Paleochori, Leftera, Avli and Mesochori. These machines were turned over to a committee formed by the mayor of each village. The sewing machine is the property of no one particular person, but of the village—a sort of civic possession, which will be used, we feel sure, continuously by the many women who so very gladly use this means of lightening their tasks.

When the Red Cross arrived at Pravi we found an orphanage of some fifty-four children, housed in a very old and dilapidated building, who were receiving two meals a day consisting of bread and olives. These children were in a deplorable condition, but at that time food at any price was almost unprocurable. During the first week of our stay eight of the children died of malnutrition in this asylum. However, after that date there have been no fatalities and, thanks to the intervention of the American Red Cross, the orphanage has been moved to a new building which is clean and wholesome; beds, mattresses and blankets have been provided and the forty-seven remaining children have been completely reclothed and show marked improvement in both health and ability to play. A committee of the Mayor and Sub-Governor of Pravi, together with the wives of three or four of the influential citizens, has been formed to look after the interests of this asylum, and we have left sufficient food stuff in Pravi to feed the orphanage for a period of about fifteen weeks, allowing the committee to accumulate the government allowance into a little sinking-fund to be used in case of emergency.

My work has consisted of, first, the organization of the system of distribution, and, later, a weekly visit to each station, the deciding of numerous questions which came up from time to time regarding policy, and the ordering of supplies. There were several weeks when we

were considerably handicapped by a shortage of supplies and materials. This was in no way the fault of Kavalla, as their magazine at that time was almost empty. On several occasions we opened our magazines in the morning without a pound of food stuff in them, and were very much relieved when we heard a cry that «the Vlachs are coming!» which meant that more food supplies would be received. All of our supplies were shipped to Musthenie and Rodolivos by the Vlachs, who have done most efficient work in getting our supplies to us on time. They are the owners of herds of small horses, which brought up the supplies—if not very rapidly, at least safely and surely over the rather precarious roads.

The road from Kavalla to Pravi was in comparatively good shape, and, although we were unable to procure motor trucks of any kind for transportation, we were able to use the ox-carts, and by this means nearly all of our food supplies were transported to Pravi. Between the Vlachs and the ox-carts, thirty tons, more or less, of assorted food staples a week were transported for distribution in the Pangaeon.

During the last week of our stay, we were fortunate enough to have sufficient supplies to increase our usual weekly ration per person, and made to each and every one of our Pangaeon people a very substantial farewell donation. For example, during the last fifteen-day period at Pravi, the following quantities were issued, and this also gives an idea of the amount of material which we handled :

40,906	okes of flour
2,124	okes of sugar
13,524	tins of milk
4,149	okes of lard
305	tins of bacon
2,950	cakes of soap

Besides the great quantities of food supplies which have been given away in this district, a great deal of clothing has been distributed — not as much as could have been used, however, for most of the people were particularly needy in this respect, and consequently we had to make our supplies of clothing go as far as possible, so that no one person ever received enough to outfit him completely,—usually four or five pieces, including a pair of socks. There was a rather pitiful aspect to the donation of socks, as they were all size 11 and were issued to even the smallest children. However, they showed great delight in receiving them, and pulled them up over their little bare legs, holding them in place above the knee with string. These socks were all white and were only worn on Sundays.

The work in the Pangaeon district has not been easy, and the personnel at the different stations deserve a great deal of credit for their work and perseverance and their co-operation and willingness to do any and all of the duties assigned to them without complaint. Without this spirit, enthusiasm and courage the work in the Pangaeon would have amounted to naught! Hustling American ways made just as much impression on the people as the actual gifts themselves. The living conditions have been primitive, as the number of workers at the different stations was too small to warrant taking an entire house, as was done at the other Macedonian stations; this, too, because of the destruction of a number of villages and the consequent overcrowding of the others, would have been almost impossible. During the winter there was a good deal of bad weather, rain and snow, and the streets of the towns were always several inches deep in mud. As for traveling, our only means of transportation was by horseback to either of the two stations, Rodolivos or Musthenie. Pravi, as before mentioned, was accessible to wheeled traffic, but from there on we had to depend entirely upon the slower method of com-

munication. The roads were narrow and hard to find, and, in a good many places, amounted to nothing more than the beds of running brooks. In crossing the plain of Philippi from Rodolivos to Drama, as was sometimes necessary, the road was completely under water, and in places the horses were forced to swim. Time and again, after half a day's ride, the personnel have come in, soaking wet and covered with mud; but they were always cheerful. To see



The Line forming for the early morning distribution of food at the Rodolivos magazine.

the nurses, some of whom had never before ridden, mount astride and start off on a five-hour journey without trepidation, was most inspiring.

These facts are mentioned simply to show that the work which was carried on and done so well was accomplished in spite of all these difficulties.

The foregoing briefly covers the work we undertook and describes the conditions as we found them. Before closing I want to say a few words about the people and the little rural villages of the Pangaeon, which no doubt are still the same as they were one hundred years ago —

perhaps five hundred. Things don't move very rapidly in the Pangaeon.

It was always possible to look down on these towns from above, as they were generally situated in a natural hollow protected from the winds and weather. They were all the same. The houses were made of gray and brown cobble stones held together with mud and straw and tiled with the moss-covered red tiles of this region. Each man's house was his castle, surrounded by a high stone wall, and such walls made the streets nothing more than little dark alleys which wound in and out, generally diverging from the town square, in which was situated the village well. The coffee shop always occupied the most prominent place, while second to that was the church. A great many of the south Pangaeon towns are Turkish, but their appearance is practically the same as that of the Greek towns, with the exception that a small mosque with one minaret replaces the Greek Orthodox church.

There was absolutely nothing for these people to do during the winter, due to the fact that they had no livestock, nor were they able to cultivate the fields. In fact, a great many of them were so dazed and broken by the hardships which they had endured during the war that I doubt if they will ever be able to resume their normal occupations. The Greek Government this spring has sent into the Pangaeon a large number of animals, which are to be paid for on a five-year instalment plan, and also loaned the farmers wheat and other grains, which were planted this spring; and a great many of them are once more looking to a future with brighter prospects.

Out of the total population of 30,208, 23,632 have been benefitted through the generosity of the American Red Cross. Out of this number, 9,096 are Turks, who, I am led to believe, do not, up to the present time, fully realize that the supplies and clothing were distributed to them from purely

philanthropic motives, in spite of our assurances. However, as the statistical report on pp. 30,31 shows, these people also suffered heavily during the invasion, and as they are part of the population of Macedonia, we felt that they should share the donations of the Red Cross with the purely Greek inhabitants. Although Mohammedans, some of these Turks have been very friendly to the Greeks, and I have found in the town of Boblen that Greek and Turkish families live together.

Regarding the Macedonian Greeks of this section, they are a simple and backward people, who have been very appreciative of the work which has been done for them. The contrast between the past two years of hardships and the kindness and consideration of the American Red Cross has affected them strongly, and they have been very honest about taking their supplies.

The officials also at every opportunity presented us with testimonials of the gratitude of themselves and those whom they represented for the work accomplished by the American Red Cross. Below is shown one of these, from the Sub-Governor of Pravi, which is typical:

«Pravi, April 22 (May 5), 1919.

*To the Officer in Charge of the Mission of the
American Red Cross in Pravi.*

Honored Sir :

On the occasion of your prospective departure and the withdrawal of the Mission of the American Red Cross in Pravi, I consider it my duty to invite you to accept my hearty thanks and the expression of gratitude on my part and on the part of the population of the District of Pravi, sorely tried by the Bulgarian invasion; this gratitude we express to you because of the interest and zeal with which you and the personnel associated with

you have labored for the relief of the population by distributing food and clothing, a work which contributed so significantly to the relief of the sufferers.

I shall be grateful to you if you should be pleased to communicate to the Direction of the American Red Cross to which you belong this expression of thankfulness and of gratitude on our part.

*Wishing you a favorable return to the fair and noble country which is your Fatherland, **America**, the protectress of the freedom and the rights of nations, I beg you to accept the expression of our conspicuous regard toward you, with which I remain,*

The Sub-Governor of Pravi.

(Signed) M. Sakellarides.»

As we leave, the food situation is not quite so acute, and the Greek Government is sending in small supplies of flour, which is sold at cost. Other food supplies are being shipped in small quantities into this region, and a large number of the people are securing employment in the tobacco industry. There is absolutely no question of the fact that hundreds of these people would have died of starvation had not the Red Cross entered this field, and from the time of entry until the work was closed, a great improvement could be seen in the general condition of the people. The statistical report (pp. 30, 31) shows the total number of persons who died during the occupation, and I have been told by the mayors of the different villages that but for the Red Cross an equal number would have died during this winter, as even the Bulgarian allowance of soup and bread was not forthcoming. These figures speak for themselves, and show that the necessity of relief here was concrete and not one bit theoretical.

I have seen something of the other Red Cross work in Macedonia, and I cannot refrain from repeating once more that the appreciation shown by these people of the Pangaeon and their desire to help in the work was indeed exceptional. Furthermore, every request which was made upon the Greek Army or the Greek officials was immediately granted wherever possible, and the help and co-operation which we received was all that could be asked. Every courtesy was extended to us in the way of an occasional lunch or dinner, and in one instance the commanding officer of Pravi favored the personnel there with a band concert, the musicians being assembled directly under our own front balcony.

The zeal displayed by all our nurses was wonderful, and only by the utmost interest and whole-souled desire to do the really great work before them could the results which they accomplished have been obtained. One of them, Miss Zacca, has the enviable record of having cared for over one hundred and fifty visitors to her dispensary in a single day.

Personally, I have found the work to be of absorbing interest, and I am very glad that I had the good fortune to receive this assignment.

(Signed) *Grosvenor C. Barry,*

First Lieutenant A. R. C.
In Command of Pangaeon Stations.

STATISTICAL REPORT FOR PANGAEON TOWNS

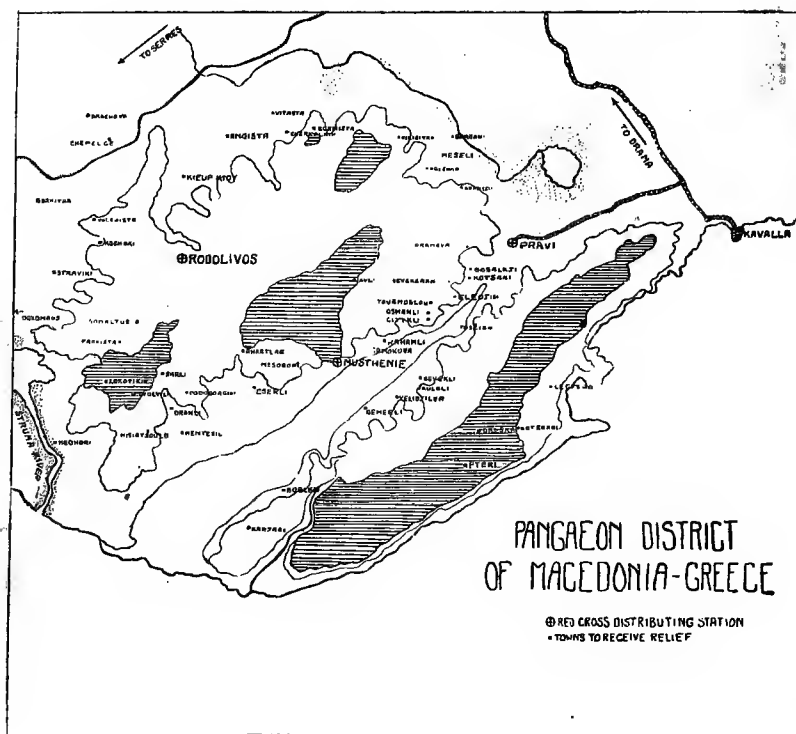
Census of April 1, 1919

By the American Red Cross.

NAME	POPULATION		Number Killed by C.	NATIONALITY OF INHABITANTS		Number Died or Starvation	* Number of Houses Destroyed	Number Persons Deported Bulgaria	Number Died in Bulgaria	Number of Doctors	NUMBER OF CHURCHES		EDUCATION		LIVESTOCK		
	Prior to 1914	April 1 1919		Greeks	Turks						Greek	Turkish	School Opened	Num-ber of Pupils	Horses and Mules	Cattle	Sheep
Provista....	1,100	620	547	620	0	210	all	70	40	0	0	0	Rodolivos		0	0	0
Rodolivos..	3,565	2,800	2,398	2,780	20	382	135	568	115	2	3	0	9/2/18	625	160	69	150
Kioup-Kioy.	2,870	2,299	1,483	2,299	0	103	25	558	294	1	1	0	9/5/18	350	140	82	200
Chepelge....	280	325	337	225	0	18	25	170	38	0	1	0	—	0	32	6	40
Straviki....	350	250	246	250	0	72	all	40	15	0	0	0	9/10/18	40	90	150	1,000
Anghista...	650	586	347	586	0	20	30	210	68	0	1	0	12/14/18	60	70	25	26
Vitasta.....	1,168	897	858	897	0	95	28	183	69	0	1	0	12/2/18	115	96	48	103
Vulchista...	150	140	133	140	0	14	8	38	25	0	1	0	9/11/18	30	15	12	50
Drachova....	380	340	60	340	0	3	0	40	18	0	1	0	9/18/18	60	45	35	150
Neochori....	60	25	17	25	0	16	13	1	0	0	0	0	9/3/18	15	0	0	200
Doxombus..	350	280	113	280	0	21	all	30	12	0	0	0	9/12/18	40	10	0	0
Kormista...	980	850	592	850	0	32	15	157	78	0	1	0	9/30/18	75	15	40	0
Chereplian..	473	480	473	480	0	9	12	50	15	0	1	0	9/18/18	50	40	35	0
Lokovikia...	1,800	1,301	830	1,301	0	125	all	150	60	0	0	0	Rodolivos	150	90	0	0
Semaltus...	1,050	759	697	759	0	101	all	171	54	0	1	0	Rodolivos	120	129	17	0
Banitsa.....	202	180	211	180	0	17	40	25	5	0	1	0	9/18/18	25	30	15	0
Kochoki....	350	270	239	270	0	45	0	75	32	0	2	0	9/18/18	75	55	0	0
Sarli.....	400	280	142	0	280	14	0	0	0	0	0	1	—	0	8	45	64
Boblen.....	450	340	264	40	300	48	54	8	0	0	1	1	—	0	11	50	240
Fteri.....	93	38	33	30	0	50	20	20	10	0	0	0	—	0	3	0	100
Veliojiler...	150	130	77	0	130	5	5	0	0	0	0	1	10/26/18	25	7	35	26
Devekli....	200	150	92	0	150	6	0	5	0	0	0	1	11/1/18	35	7	45	60
Demerli.....	288	250	134	0	250	25	1	2	1	0	0	1	10/26/18	30	7	40	95
Kargani.....	600	140	89	140	0	250	all	153	58	0	0	0	—	0	16	25	40

180	150	115	130	0	150	0	8	20	0	0	0	0	0	1	1	10/20/18	3.192	1.966	1.509	3.864
1,080	650	616	430	0	220	230	80	153	38	0	0	0	1	0	0	11/25/18	97	7	51	44
120	65	65	0	0	65	32	all	0	0	0	0	0	0	0	0	—	0	0	0	0
80	85	71	0	0	85	8	0	0	0	0	0	0	0	1	1	10/26/18	15	0	10	0
1,650	1,200	851	450	0	750	117	65	151	46	0	0	0	1	4	4	11/21/18	75	64	120	60
710	605	515	0	0	605	18	4	0	0	0	0	0	0	0	0	—	0	2	14	24
224	198	184	0	0	198	9	0	0	0	0	0	0	0	1	1	—	0	0	9	0
130	137	102	137	0	0	0	all	17	11	0	0	0	1	0	0	9/1/18	45	3	0	0
470	380	324	380	0	0	201	37	90	35	0	0	0	1	0	0	9/1/18	90	29	8	0
160	109	104	0	0	109	15	0	0	0	0	0	0	1	0	1	10/1/18	20	21	15	0
150	197	143	0	0	147	55	0	0	0	0	0	0	1	1	1	10/10/18	17	15	6	50
185	165	57	0	0	165	7	0	0	0	0	0	0	1	1	1	10/5/18	15	7	2	0
2,037	1,899	1,896	1,899	0	0	341	0	184	49	2	3	0	0	0	0	9/1/18	225	0	0	0
635	496	561	267	0	229	77	0	112	45	0	1	1	1	1	1	9/1/18	75	45	25	0
530	363	521	125	0	238	26	0	57	21	0	0	0	1	1	1	10/1/18	12	16	7	180
282	262	150	0	0	262	4	69	20	0	0	0	0	1	1	1	2/1/19	61	14	21	0
650	200	183	200	0	0	115	40	80	40	0	2	0	0	0	0	9/1/18	60	11	0	0
300	240	61	0	0	240	0	0	0	0	0	0	0	2	0	0	9/1/18	30	25	10	0
1,100	899	934	399	0	500	201	80	150	80	0	1	1	0	0	0	10/1/18	85	75	20	80
500	230	216	0	0	230	11	0	0	0	0	0	0	0	0	0	9/1/18	15	14	12	60
1,545	1,065	1,070	570	0	495	204	86	106	27	0	2	1	1	1	1	9/1/18	140	236	33	0
4,550	3,680	2,281	2,460	1,220	1,011	131	131	408	80	5	2	2	2	2	2	9/1/18	0	240	53	655
160	93	87	0	93	75	7	7	2	0	0	0	0	1	1	1	—	0	1	0	0
161	155	122	0	155	12	0	0	0	0	0	0	0	1	1	1	—	0	0	0	0
280	250	115	0	250	35	3	3	6	1	0	0	0	1	1	1	11/26/18	30	0	16	0
300	281	265	0	281	35	4	4	5	1	0	0	0	2	2	2	11/26/18	20	0	38	0
1,900	1,145	1,009	1,145	0	550	101	101	285	106	0	2	0	0	0	0	11/25/18	80	60	51	105
330	210	109	0	210	10	12	12	0	0	0	0	0	2	2	2	10/26/18	30	2	33	10
929	760	217	0	760	22	13	13	33	2	0	0	0	0	0	0	10/26/18	7	1	117	22
120	101	83	0	101	20	3	3	6	0	0	0	0	1	1	1	10/26/18	18	0	20	0
250	135	119	0	135	21	30	30	1	0	0	0	0	1	1	1	—	0	0	4	20
25	28	25	0	28	11	3	3	0	0	0	0	0	0	0	0	—	0	0	2	0
55	45	41	0	45	8	8	13	2	0	0	0	0	0	0	0	—	0	0	3	5
39,737	30,208	23,622	20,954	9,096	5,168	1,200	4,618	1,589	10	33	38	3.192	1.966	1.509	3.864					

* 8 towns completely destroyed.



PUBLISHED REPORTS OF THE AMERICAN RED CROSS COMMISSION TO GREECE

- The American Red Cross in Greece, by Lieutenant Colonel Edward Capps.
Final Report of the Department of
Civilian Relief, by Major A. Winsor Weld.
Relief Work in Eastern Macedonia;
Organization; the Bulgarian Stations, by Lieutenant Colonel Edward Capps.
The Period of Full Activity, by Major Horace S. Oakley.
The Last Phase, by Major Henry B. Dewing.
Statistical Summary
Relief Work among the Villages of Mount
Pangaëon, by Lieutenant Grosvenor C. Barry.
Relief Work on the Aegean Islands, by Major A. Winsor Weld.
The Typhus Epidemic in Eastern Macedonia, by Major Samuel J. Walker.
The Hospitals of Greece (a critique), by Major Carl E. Black.
A Survey of the Hospitals of Greece, by Major Carl E. Black.
Πῶς μπορεί ἡ Ἑλλάς νὰ παράγῃ περισσότερα τρόφιμα (How Greece Can Produce More Food), by Major Cyril G. Hopkins.

Copies of the above reports may be obtained by application
to The American Red Cross, Athens.

